

Tertiary Dentition: Full Mouth Rehabilitation using Implants and Fixed Prosthesis

Chitrang Thaker

Fellow of Indian Society of Oral Implantologists

Abstract

Introduction: Several treatment options with implant have been described for rehabilitation of edentulous patient. For many years, osseointegrated implant-supported fixed bridges have been used in the rehabilitation of the edentulous jaws with excellent results. Intraosseous dental implants are reported to show high success rate.

Case Report: A 64-year-old male patient presented in our dental office for evaluation of periodontal condition. The patient did not have any medical conditions and was not taking any medications that were associated with a compromised healing response.

Materials Used: Osstem Implants, Ethicon sutures, Sinus lift CASKIT, Osteotome, etc

Conclusion: Implant placement in the posterior maxilla that are atrophied with less height in between the sinus floor and the alveolar ridge can be greatly extended by the indirect sinus lift procedure through the crestal osteotome approach as the procedure is very easy and invasive and the time consumption is less and the apical bone themselves acts as the bone graft and that tents the sinus lining and crestal sufficient primary stability for the implant placement with less post-operative complications.

Key words: Atrophic maxilla, Sinus floor, Crestal approach, Pneumatic sinus

INTRODUCTION

Several treatment options with implant have been described for rehabilitation of edentulous patient. For many years, osseointegrated implant-supported fixed bridges have been used in the rehabilitation of the edentulous jaws with excellent results. Intraosseous dental implants are reported to show high success rate.

The posterior maxilla is always considered as challenging site for the placement of implant due to presence of maxillary sinus in the chronic atrophic maxilla and further poses difficulty in osseointegration.

Hence various techniques like sinus elevation procedures, ridge splitting, guided bone regeneration, enables the additional anchorage and stability in implants placed

support in maxillary segments in with atrophic ridges and pneumatic sinuses.

Sinus lifting procedure helps to achieve the desired height and primary stability for the placement of root form implants the widely performed two techniques for sinus floor elevation are lateral window approaches.

The sinus lift procedures and bone augmentation procedure were performed and developed at the mid 1970's. Crestal approach was very widely performed rather than lateral window approach followed by osteotome for elevation of the membrane and fracture of the floor of the sinus and immediate placement of the implant at the same time graft may or may not be placed.

This procedure is less invasive compared to lateral window approach, less time consuming, minimal trauma to the underlying structures and post-operative prognosis of the treatment is similar to the usual conventional technique.

CASE REPORT

A 64-year-old male patient presented in our dental office for evaluation of periodontal condition. The patient did

Access this article online



www.ijss-sn.com

Month of Submission : 05-2018
Month of Peer Review : 06-2018
Month of Acceptance : 07-2018
Month of Publishing : 07-2018

Corresponding Author: Dr. Chitrang Thaker, Fellow of Indian Society of Oral Implantologists. Phone: 9869214265, E-mail: chitrangthaker@gmail.com

not have any medical conditions and was not taking any medications that were associated with a compromised healing response. Clinical and radiographic examination indicated generalized severe alveolar bone loss and apically involved teeth. The patient was further evaluated for fabrication of treatment plan which was extraction of compromised teeth followed by treatment with implant-supported fixed prosthesis. The patient was given a detailed explanation concerning the present state, procedures and alternative treatment plans and then informed consent was obtained from the patient [Figure 1a-c].

MATERIALS USED

All the mandibular teeth were removed and the extraction sockets were thoroughly debrided and degranulated to remove all tissue. Following 2 weeks of healing, computed tomographic examination was performed to assess the available bone length and width. Six implants (Osstem Seoul, Korea) were planned to be placed within the mandible.

Two implants (Osstem Seoul, Korea) were placed first in the lower canines and two (Osstem Seoul, Korea) in the first premolar region and two (Osstem Seoul, Korea) in the first molar region. The defected area next to the extraction area and the marginal voids between the implant surface and the buccal cortex in the canine area were grafted with deproteinized bovine bone (Bio-Oss, Geistlich Pharm AG, Wolhausen, Switzerland). A cellular dermal matrix graft processed out of the patient's blood centrifuged by The Choukroun technique was used to completely cover the defect and bone graft in a saddle-like manner and secured under the buccal and lingual flaps. The wound was closed by means of single sutures (Ethicon, Johnson and Johnson).

Sinus Lift Procedure for Upper Right Molar

A preoperative evaluation of bone height and bone width are measured clinically and with the help of intra oral radiograph using RVG/CBCT/OPG.

Antibiotic prophylaxis was initiated a day before the surgery 500mg amoxicillin B.I.D for 5days, paracetamol 650mg T.I.D for 5days

Under local anaesthesia, a cut was given in the upper molar region on both sides, flap was raised, surgical curettage was done.

Drill upto 1 mm away from the floor was continued followed by CASKIT drills at slow speed were used to fracture the floor and Schneiderian membrane was elevated with hydrolic lift(Normal Saline)

Implant of dimension (Osstem Seoul, Korea 4.0 x 10

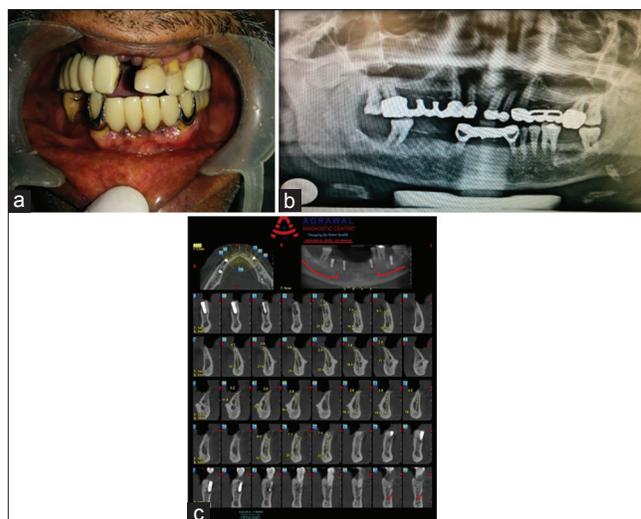


Figure 1: (a) Clinical view at the initial visit, (b) The radiograph showed generalized alveolar bone loss and apically involved teeth, (c) Cross-sectional view of computed tomogram before extraction

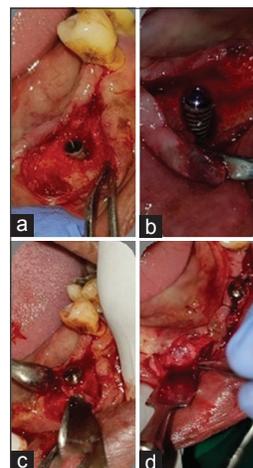


Figure 2: (a) Placement of bone graft (b) Placement of A-PRF (c) Placement of Cover Screw (d) Sutures in place

MM) was placed. Primary stability was assessed with finger pressure the implant showed primary stability

Temporarization was accomplished by giving the patient a set of complete denture for 3 months.

The second stage healing abutments (Osstem, Seoul, Korea) were placed and torque to 15 N cm in all implants and the healing abutment was placed 3 months after implant installation.

At 14 weeks impression for temporization were made and fabrication of Bis-GMA crowns was done. With these caps seated on the abutments and the temporary crowns were cemented in place using Impl Temp. The additional implant placed on the left mandibular premolar area was not engaged and kept preserved.

Postoperatively patient was advised to rinse the mouth twice with betakind mouthrinse for two weeks.

After a healing period of 4 months patient was recalled for second stage uncovering of the Implant and rehabilitated with fixed prosthesis [Figure 2a-d].

POST OPERATIVE OPG SHOWING FIXED PROSTHESIS



CONCLUSION

Implant placement in the posterior maxilla that are atrophied with less height in between the sinus floor and

the alveolar ridge can be greatly extended by the indirect sinus lift procedure through the crestal osteotome approach as the procedure is very easy and invasive and the time consumption is less and the apical bone themselves acts as the bone graft and that tents the sinus lining and crestal sufficient primary stability for the implant placement with less post-operative complications.

Use of A-PRF and sticky bone accelerated the healing process and avoided resorption of the graft aiding in strategic placement of implants in spite of bony defects thereby reducing the prosthetic load

REFERENCE

1. Adell R, Lekholm U, Rockler B, Brånemark Pi. A 15 year study of osseointegrated implants in the treatment of edentulous jaw.
2. Bryant SR The effect of age, jaw site, and bone condition on oral implants outcomes
3. Jensen OT, Schulman LB, Block MS, Iacono VJ. Report of the sinus consensus conference of 1996
4. Tatum H jr Maxillary and sinus implant reconstructions. Dent clin north AM 1986;30:207-29
5. Emmerich D, Att w, Stappert C sinus floor elevation using osteotomes A systemic review and meta analysis. J periodontal 2005;76:1237-51
6. Schulman LB, JENSEN OT, Sinus graft consensus conference introduction int J oral maxillofacial implants 1998:13
7. Hahn J. Clinical uses of Osteotomes J oral implantology 1999:25:23
8. Nedir R, Bischoff M, Vazquez L, Szmukler, Moncler, Bernard i-year prospective pilot study with implants Res 2006;17:679-86
9. Summers-RB the osteotome technique PART – less invasive methods of elevating the sinus floor. Compendium 1994;15:698-702

How to cite this article: Thaker C. Tertiary Dentition: Full Mouth Rehabilitation using Implants and Fixed Prosthesis. Int J Sci Stud 2018;6(4):95-97

Source of Support: Nil, **Conflict of Interest:** None declared.